

Nigel W.T. Quinn, PhD, P.E., D.WRE, F.ASCE

Research Group Leader,
HydroEcological Engineering Advanced Decision Support (HEADS)
Earth Sciences Division, Bld. 14-134
Lawrence Berkeley National Laboratory
Berkeley, CA 94720.

(510) 486-7056
(510) 612-8802 (cell)
(510) 486-7152 (fax)
nwquinn@lbl.gov

ACADEMIC DEGREES

BSc (Hons) Agricultural Engineering (summa cum laude)	Cranfield University, England	1977
MS Agricultural and Civil Engineering	Iowa State University, Ames, IA.	1981
PhD Water Resources Systems Engineering	Cornell University, Ithaca, NY.	1987

ACADEMIC

Staff Scientist : Lawrence Berkeley National Laboratory	Oct 90 - present
Group Leader : HydroEcological Engineering Advanced Decision Support	Sept 02 – present
Visiting Scientist, Energy Biosciences Institute, University of California, Berkeley	Jan 08 - present
Associate Scientist, Department of Civil Engineering, University of California, Merced	Jun 05 – present
Adjunct Research Professor, Department of Plant Science, California State University, Fresno	May 05 – Dec 10
Research Engineer : University of California, Berkeley	Oct 99 – Sep 03
Postdoctoral Research Associate IV : Cornell University	Jan 87 - Sep 90
Program on Science, Technology and Society	
General Electric Fellow : Cornell University	Jan 85 - Jan 87
Program on Science, Technology and Society.	
Research and Teaching Assistant : Cornell University	Jan 81 - Jan 85
Department of Agricultural Engineering.	
Lecturer : Iowa State University Faculty	Dec 77 - Jan 81
Department of Agricultural Engineering.	

INDUSTRY / GOVT.

Water Resources Engineer/Cooperator : US Bureau of Reclamation, Division of Planning	Sep 90 - present
Consultant Hydrologist, MFG Inc. (TetraTech Inc.)	Sep 00 - Oct 04
Senior Water Resources Engineer/ Planner	Jan 87 - Sep 90
Interagency San Joaquin Valley Drainage Program	
Research Engineer, US Dept. of Agriculture, Agricultural Research Service	Jan 78 – Dec 79
Irrigation Engineer : Tate and Lyle Corporation	Jun 77 - Dec 77
Spalding, England.	

RECENT AND ONGOING RESEARCH

- Principal Investigator; (2015-2020): Cyberinfrastructure development in support of Reclamation's Program to Meet Standards for implementation of real-time salinity management in the San Joaquin River Basin. (\$630,000 – UC Merced).
- Co-Principal Investigator (2016-2018): Sustainable subsurface drainage management at the SJRIP facility using the CSUID-II model to optimize salt leaching in Jose tall wheatgrass and alfalfa fields. (\$290,000 – CSU Fresno).
- Principal Investigator; (2011–2016) : Modeling technical support, decision support tool development, data analysis and assimilation, GIS integration and staff support related to Reclamation planning - \$830,000
- Principal Investigator; (2010–2013) : Examining frameworks for evaluating groundwater substitution water transfers, phase III wetland groundwater conjunctive use investigation and development of data management and quality assurance techniques in support of real-time monitoring. US Bureau of Reclamation - \$350,000
- Principal Investigator; (2010–2012) : GIS-based decision support for wetland drainage salinity management. - US Bureau of Reclamation, Science and Technology Program - \$70,000

- Principal Investigator; (2010–2011) : Modeling and analysis of salt fate and transport on agricultural land and seasonal wetlands on the west-side of the San Joaquin Basin, US Bureau of Reclamation, Program to Meet Standards - \$40,000
- Principal Investigator; (2008–2009) : Geophysical groundwater quality evaluation in East Bear Creek, California US Bureau of Reclamation - \$100,000
- Principal Investigator; (2007–2008) : Improving WESTSIM surface-groundwater simulation model . US Bureau of Reclamation - \$80,000
- Principal Investigator; (2006–2007) : Use of geophysical techniques to map groundwater quality . US Bureau of Reclamation - \$43,000
- Principal Investigator; (2007–2008) : technical improvements and maintenance of the LBL precision bed sampler . US Bureau of Reclamation - \$10,000
- Principal Investigator; (2007–2008) : Enhancement of return flow simulation modeling . US Bureau of Reclamation - \$42,900
- Principal Investigator; (2006–2007) : Application of high resolution remote sensing to vegetation mapping in San Joaquin Basin grasslands . US Bureau of Reclamation - \$76,200
- Principal Investigator; (2005–2008) : Cooperative project with Grassland Water District and California Department of Fish and Game. Implementation of Real-Time Water Quality management in the Grassland Ecological Area. State Water Resources Control Board - \$960,000.
- Co-Principal Investigator; (2005–2008) : Cooperative project with Patterson Irrigation District. Real-Time, Salt and Nutrient Drainage Load Reduction Strategies – Patterson & West Stanislaus Irrigation District. State Water Resources Control Board - \$997,000.
- Co-Principal Investigator; (2005–2008) : Cooperative project with Patterson Irrigation District. Decision support for implementation and evaluation of agricultural water reuse best management practices to improve district-level irrigation efficiency. CALFED Water Use Efficiency Program - \$500,000.
- Principal Investigator; (2005–2007) : Use of geophysical techniques for reconnaissance assessment of groundwater pumping potential beneath San Joaquin and Tulare basin wetlands. US Bureau of Reclamation - \$120,000.
- Co-Principal Investigator (with Tom Harmon, UC Merced); (2005-2006) ; Real-time sensor development for adaptive real-time management of wetland salinity. UC Salinity-Drainage Program. \$33,000.
- Co-principal Investigator : (2004-2007) : San Joaquin River Dissolved Oxygen TMDL. CALFED Directed Action. With : US Geological Survey, University of the Pacific, UC Davis, Systech Inc., Jones and Stokes Inc., West-side Drainage Authority - \$6,800,000.
- Principal Investigator : (2004 – 2005) : Enhancement of return flow simulation from agriculture and seasonal wetlands using WESTSIM – USBR - \$76,000.
- Principal Investigator : (2003 – 2005) : SJRRHRP Water Quality Monitoring and Decision Support System – USBR - \$139,760
- Principal Investigator : (2004 – 2005) : Geophysical logging techniques for groundwater resource quality mapping in the Grassland Ecological Area – USBR Science and Technology Grant - \$30,000.
- Principal Investigator : (2004 – 2006) : Use of remote sensing for estimation of wetland evapotranspiration in the San Luis National Wildlife Refuge, California. USBR Science and Technology Grant - \$117,000.
- Co-Principal Investigator : (2003-2005) (with Norm Miller, Larry Dale and Chris Ding) : Laboratory Director's Research and Development Grant. The California Water and Energy System: An Approach for Addressing Future Crises. LBNL - \$450,000.
- Principal Investigator : (2003 – 2004) : Calibration and application of WESTSIM, using updated IGSM2 model code, to drainage problem areas and seasonal wetlands – USBR - \$69,000.
- Principal Investigator : (1999 – 2004) : Adaptive Real-Time Management of Wetland Return Flows in the Grasslands Basin, California. CALFED grant - \$635,000.
- Principal Investigator : (2003-2005) Adaptive Real-Time Management of Wetland Salinity from the San Luis National Wildlife Refuge. CALFED grant - \$360,000. Co-PI : Dennis Woolington, US Fish and Wildlife Service.
- Co-Principal Investigator : (2001 – 2003) : Discriminating Between West-Side Sources of Nutrients and Organic Carbon Contributing to Algae Growth and Oxygen Demand in the San Joaquin River. CALFED grant with Will Stringfellow - \$179,000.
- Co-Principal Investigator : (2001 – 2004) : Panoche-Silver Creek Selenium Management Planning. CALFED grant with Panoche Silver Creek CRMP- \$890,000.

- Co- Investigator : (1999 – 2003) : An integrated modeling system for environmental impact analysis of climate variability and extreme weather events in the San Joaquin Basin, California. EPA Grant with Professor John Dracup, UCB - \$900,000.
- Principal Investigator : (1995 – 1998) : Application of Advanced Decision Support Systems to Water Resources Planning. USBR grant - \$220,000.
- Research Coordinator : (1996 - 2001) : Algal-bacterial selenium removal system in the Panoche Water District. USBR and CALFED grants with Professors Oswald and Leighton - \$1,300,000.
- Principal Investigator : (1997 - 2002) : Development of the Westside Integrated Groundwater-Surface Water Model (WESTSIM). USBR grant - \$190,000.
- Principal Investigator : (1993 - 1995) In-transit selenium losses in the Grasslands Basin . USBR grant - \$120,000.
- Principal Investigator : (1994 - 1995) : Modeling selenium in-transit losses. SWRCB Grant with Professor H.W. Shen - \$60,000.
- Co-Principal Investigator : (1996- 2002) : Real-Time water Quality Management in the San Joaquin River. CALFED grant and USBR challenge grant with Department of Water Resources and California Regional Water Quality Control Board - \$1,200,000.

RESEARCH INTERESTS

Application of systems analysis techniques to solving complex water resources problems. Analysis of environmental, social and economic impacts of global climate change in California. Development of decision support systems and simulation models to improve understanding and facilitate negotiation of solutions to future water resource and water quality problems. Primary research focus during past decade has been on developing decision making tools for assessing the impacts of drainage water quality on the west side of the San Joaquin Valley with an emphasis on salinity and selenium. Field research has included investigations of natural selenium in-transit losses in a wetland channel used for drainage discharges and surface water deliveries, cooperative work with private and public wetlands in the Grasslands Basin to develop monitoring and management responses to a salinity TMDL and participation in microbial mesocosm studies to identify bacterial species capable of selenium bioremediation. Results of these natural system bioremediation experiments are being used to help optimize the performance of an algal-bacterial selenium bioremediation plant for treating agricultural drain water in the Panoche Water District in the western San Joaquin Valley.

PROFESSIONAL SERVICE

Co-Convener, International Environmental Modeling and Software Conference, San Diego, CA
 Chair Technical and Economic Committee, CVSALTS – Central Valley Salinity Coalition, (2008 – present)
 Convener, 2002, 2003, 2004, past Convener, 2005. California Water and Environmental Modeling Forum.
 Co-Chair and Founder, Water and Environment Technology Team (WETT), LBNL, 2005-2008
 Berkeley Laboratory Delegate, White House Conference on Industrial Ecology
 Department of Energy, Water-Energy Nexus Committee
 Chair, Inter-Laboratory Committee on Water Resources
 CALFED Water Quality Technical Group
 San Joaquin River Management Program (Steering Committee and Water Quality Subcommittee)
 American Society of Civil Engineers
 American Geophysical Union
 Water Environment Federation
 California Irrigation Institute
 US Committee of Irrigation and Drainage
 International Symposium for Environmental Software Systems (Board of Directors)
 International Environmental Modelling and Software Society (Board of Directors)
 Chair, Technical Committee, Central Valley Salinity Coalition, CVSALTS
 Member Executive Committee, Central Valley Salinity Coalition, CVSALTS

LICENCES

Registered Professional Engineer

HONORS

Fellow, American Society of Civil Engineers, August 2015.
Distinguished Service Award, California Water and Environmental Modeling Forum, February 2014.
Hugo B. Fischer Award. Awarded by the California Water and Environmental Modeling Forum for outstanding contributions to water and environmental modeling in California. April, 2013.
Fellow, International Environmental Modelling and Software Society, 2010.
Fellow, International Symposium for Environmental Software Systems, 2006.
Diplomate American Academy for Water Resources Engineers D.WRE
Who's Who in America (since 2001)
Who's Who in California (since 1988)
Gamma Sigma Delta, Alpha Epsilon, Honor Societies

SOCIAL/CIVIC

Co-Manager, Wine Country Polo Club
Berkeley Yacht Club
Woodlake Neighborhood Association
Dominican-Black Canyon Neighborhood Association
Manorial Society of Great Britain

PUBLICATION WEBSITES (FOR DOWNLOADS)

https://www.researchgate.net/profile/Nigel_Quinn/publications/
<http://scholar.google.com/citations?user=QqUmT3EAAAAJ&hl=en>

PEER REVIEWED JOURNAL PUBLICATIONS

1. Parrott L. and N.W.T. Quinn. 2015. A complex systems approach for multi-objective water quality regulation on wetland landscapes. Submitted to Ecosphere Journal.
2. Sathre R., H. Breunig, J. Greenblatt¹, P. Larsen, E. Masanet, T. McKone, N. Quinn¹, C. Scown. 2015. Spatially-explicit water balance implications of carbon capture and sequestration. Environmental Modelling & Software. Provisionally accepted. ENVSOFT-D-14-00894
3. Reis S., E. Seto, A. Northcross, N.W.T. Quinn, M. Convertino, R.L. Jones, H.R. Maier^g, U. Schlink, S. Steinle, M. Vieno, M.C. Wimberly. 2015. Integrating modelling and smart sensors for environmental and human health. Journal of Environmental Modeling and Software. 06/2015. In press.
4. Quinn N.W.T, R. Tassey and J. Wang. 2014. Use of online data and computational resources to implement real-time salinity management - an efficient regulatory alternative to TMDL-mandated waste discharge requirements. DOI: 10.4018/978-1-4666-7336-6.ch004 In: Handbook of Research on Advancements in Environmental Engineering, Edition: Advances in Environmental Engineering and Green Technologies (AEEGT) Book Series, Chapter: Basin-Scale, Real-Time Salinity Management Using Telemetered Sensor Networks, Publisher: IGI Global, Editors: Nediljka Gaurina-Medjimurec, pp.89-117
5. Quinn N.W.T. and J.R. Burns. 2015. Use of a hybrid optical remote sensing classification technique for seasonal wetland habitat degradation assessment resulting from adoption of real-time salinity management practices. Journal of Applied Remote Sensing. 03/2015; 9(1):1-25.
6. Quinn N.W.T. and Olga Epshtein. 2014. Seasonally-Managed Wetland Footprint Delineation and Evapotranspiration Estimation using Landsat ETM and Satellite Imagery. Journal of Environmental Modeling and Software. 04/2014; 54(April):9-23.

7. Gerard F. Laniak G.F., G. Olchin, J. Goodall, A. Voinov, M. Hill, P. Glynn, G. Whelan, G. Geller, N.W.T. Quinn, M. Blind, S. Peckham,, S. Reaney, N. Gaber, R. Kennedy and A. Hughes. 2013. Integrated Environmental Modeling: A Vision and Roadmap for the Future. *Journal of Environmental Modeling and Software*. Environmental Modelling and Software 01/2013; 39:3-23
8. Hua P., S. Borglin, N.A. Kamennaya, L. Chen, H. Park, L. Mahoney, A. Kijac, G. Shan, L. Krystle, L. Chavarria, C. Zhang, N.W.T. Quinn, D. Wemmerc, H. Holman , C. Jansson . 2012. Metabolic phenotyping of the cyanobacterium *Synechocystis* 6803 engineered for production of alkanes and free fatty acids. *Applied Energy*. 01/2012; 102: DOI:10.1016/j.apenergy.2012.08.047.
9. Rahilly P.J.A., D. Li, Q. Guo, J. Zhu¹, R. Ortega, N.W.T. Quinn, and T.C. Harmon. 2012. Mapping swamp timothy (*Criopsis schenoides*) seed productivity using spectral values and vegetation indices in managed wetlands. *International Journal of Remote Sensing*. 33(16), 4902–4918.
10. Gardner J. C., N.W.T. Quinn, J. Van Gerpen, and J. Simonpietri. 2011. Oilseed and algal oils as biofuel feedstocks. Soil and Water Conservation Society, Position Paper. <http://www.swcs.org>. Soil and Water Conservation Society, Sept 30, 2011.
11. B.S. McIntosh, J.C. Ascough II, M. Twery, J. Chew, A. Elmahdi, D. Haase, J. Harou, D. Hepting, S. Cuddy, A.J. Jakeman, S. Chen, A. Kassahun, S. Lautenbach, K. Matthews, W. Merritt, N.W.T. Quinn, I. Rodriguez-Roda, S. Sieber, M. Stavenga, A. Sulis, J. Ticehurst, M. Volk, M. Wrobel, H. van Delden ,S. El-Sawah. 2011. Environmental Decision Support Systems (EDSS) Development – Challenges and Best Practices. Special Issue, *Environmental Modelling and Software*.
12. Quinn N.W.T. 2011. Contrasts in the use of information technology for real-time salinity management in the San Joaquin Basin, California, USA and Hunter River Basin, New South Wales, Australia. *Agricultural Water Management*. Vol. 98 (6), p.930-940, Apr 2011.
13. Quinn N.W.T., R. Ortega and L. Holm. 2011. Environmental sensor networks and continuous data quality assurance to manage salinity within a highly regulated river basin. *Decision Support Systems in Agriculture, Food and the Environment: Trends, Applications and Advances*.
14. Quinn N.W.T., G. Lee and D. Cozad. 2010. Information technology and decision support tools for stakeholder-driven river basin salinity management. *IEEE Proceedings*, 43rd Annual HICSS Conference, Kawaii, Hawaii, Feb 5-9, 2010.
15. Quinn N.W.T., R. Ortega, P.J.A, Rahilly and C.W. Royer. 2010. Use of environmental sensors and sensor networks to develop water and salinity budgets for seasonal wetland real-time water quality management. *Environmental Modelling and Software*. Vol 25, 1045-1058.
16. Quinn N.W.T, 2009. Information technology and innovative drainage management practices for selenium load reduction from irrigated agriculture to provide stakeholder assurances and meet contaminant mass loading policy objectives. *Agricultural Water Management*, 96 (3), p.484-492, Mar 2009.
17. Quinn N.W.T, 2009. Environmental decision support system development for seasonal wetland salt management in a river basin subjected to water quality regulation. *Agricultural Water Management*, 96 (2), p.247-254, Feb 2009.
18. Stringfellow W.T, Herr J., Litton G., Brunell M., Borglin S., Hanlon J., Chen C., Graham J., Burks R., Dahlgren R., Kendall C., Brown R. and Quinn N.W.T. 2009. Investigation of river eutrophication as part of a low dissolved oxygen total maximum daily load implementation. *Water Science & Technology—WST Vol 59 No 1 pp 9–14 © IWA Publishing*.

19. Stringfellow W.T., J.S. Hanlon, S. E. Borglin, and N.W.T. Quinn. 2008. Sources of Biochemical Oxygen Demand in Western Tributaries of the San Joaquin River, California. *Agricultural Water Management*, 95. pp 527-538.
20. Su, G.W., N.W.T. Quinn, P.J. Cook, and W. Shipp. 2006. Miniaturization of the flowing fluid electrical conductivity logging technique, *Ground Water*, Vol. 44, No.5 pp. 754-757, Sept-Oct, 2006. LBNL-59032.
21. Quinn N.W.T. and K.C. Jacobs 2006. An Emergency Environmental Response System to Protect Migrating Salmon in the Lower San Joaquin River.. *Environmental Modelling and Software*. Vol. 22, pp 416-422. Elsevier Science Ltd. Online. doi:10.1016/j.physletb.2003.10.071. April 17, 2006. LBNL-60622.
22. Quinn N.W.T., K.C. Jacobs, C.W. Chen and W.T Stringfellow. 2005. Elements of a Decision Support System for Real-Time Management of Dissolved Oxygen in the San Joaquin River Deep Water Ship Channel. *Environmental Modelling and Software*. Elsevier Science Ltd. June 2005. LBNL Report-55929.
23. Brekke, L.D., N.L. Miller, N.W.T. Quinn, J.A. Dracup, and D. Hilts. 2004. Climate Change Impacts on San Joaquin River Basin water allocation. Paper No. 02103RR. *Journal of American Water Resources Association*, Vol 40, No. 1, pp. 149-164.
24. Quinn N.W.T., L.D. Brekke, N.L. Miller, T. Heinzer, H. Hidalgo and J.A. Dracup. 2004. Model Integration For Assessing Future Hydroclimate Impacts On Water Resources, Agricultural Production And Environmental Quality in the San Joaquin Basin, California. *Environmental Modelling and Software*. Elsevier Science Ltd. Vol. 19. pp 305-316. (LBNL-51708)
25. Quinn N.W.T. and W.M. Hanna. 2003. A Decision Support System for Adaptive Real-Time Management of Seasonal Wetlands in California. 2003. *Environmental Modelling and Software*. Vol. 18, Issue 6, pp 503-511. Elsevier Science Ltd. (LBNL-50238)
26. Green, F.B., Lundquist, T.J., Quinn, M.W.T., Zarate, M.A., Zubieta, I.X. and W.J. Oswald. 2003. Selenium and nitrate removal from agricultural drainage using the AIWPS® technology. *Water Science & Technology*, 48 (2): 299-305, 2003.
27. Quinn N.W.T. and W.M. Hanna. 2002. Real-Time Adaptive Management of Seasonal Wetlands to Improve Water Quality in the San Joaquin River. *Advances in Environmental Research*. Vol. 5, pp 309-317. Elsevier Science Ltd.
28. Quinn N.W.T, N.L. Miller, J.A. Dracup, L. Brekke and L.F. Grober. 2001. An Integrated Modeling System for Environmental Impact Analysis of Climate Variability and Extreme Weather Events in the San Joaquin Basin, California. *Advances in Environmental Research*. Elsevier Science Ltd. Vol 5 (2001) 309-317.
29. Swayne, D., Denzer, R., Lilburne, L., Purvis, M., Quinn, N.W.T. and Storey, A., 2000. Environmental decision support systems: exactly what are they?. In: Denzer, R., Swayne, D.A., Purvis, M. and Schimak, G., Editors, 2000. *Environmental software Systems*. *Environmental Information and Decision Support*. IFIP TC5 WG5.11. International Federation for Information Processing, Part IV, Kluwer Academic Publishers, Norwell, Mass, pp. 259–268.
30. Quinn, N.W.T., T.J. Lundquist, F.B. Green, W.J. Oswald, T Leighton and M.A. Zarate. 2000. An algal-bacterial treatment system to reduce selenium loads in agricultural drainage. *California Agriculture*. November-December, Vol 54 No. 6.
31. Quinn N.W.T. and J. Karkoski. 1998. Potential for real time management of water quality in the San Joaquin Basin, California. *Journal of the American Water Resources Association*, Vol. 36, No. 6, December.
32. Quinn N.W.T. and P. Vorster. 1998. The comparative role of science in in resolving environmental problems at Kesterson Reservoir and Mono Lake, California. *Lakes and Reservoirs : Research and Management*, Vol. 3, 187-191.

33. Quinn, N.W.T., J. McGahan and M. Delamore. 1998. Innovative drainage management techniques to meet monthly and annual selenium load targets. *California Agriculture*, Vol. 52, No. 5, September-October. 1998.
34. Quinn N.W.T. and J. Clyde. 1998. A bed sediment sampler for precise depth profiling of contaminant concentrations in aquatic environments. *Journal of Environmental Quality*, Vol.27: pp. 64-67
35. Quinn, N.W.T., L.F. Grober, J. Kipps, C.W. Chen and E. Cummings. 1997. Computer model improves real-time management of water quality. *California Agriculture*, Vol. 51, No. 5, September-October. 1997
36. Quinn N.W.T, Richard B. Smith, Charles M. Burt, Tracy Slavin, and Stuart Styles. 1989. Evaluation of unlined ditch and reservoir seepage losses in Westlands Water District. *California Agriculture*, Nov-Dec.
37. Quinn N.W.T and J.M. Laflen. 1983. Characteristics of raindrop throughfall under corn canopy. *Transactions of the ASAE*. Vol 26, no 5, pp 1445-1450.
38. Quinn N.W.T. and J.M. Laflen. 1981. Properties of transformed rainfall under corn canopy. *American Society of Agricultural Engineering* , ASAE. paper no 81-2059..
39. Quinn N.W.T, R.P.C. Morgan and A.J. Smith. 1980. Simulation of soil erosion induced by human trampling. *Journal of Environmental Management*, Vol 10, no. 1, pp 155-165.
40. Elwell H.A. and N.W.T. Quinn. 1975. A rapid method for estimating the dry mass of soil from erosion research plots. *Rhodesian Journal of Agricultural Research*, Vol 13, pp 149-154.

BOOK CHAPTERS AND EDITED VOLUMES

1. Quinn, N.W.T.. 2014. Advances in wetland salinity management. In: A.C. Chang and D. Brawer Silva (eds.), *Salinity and Drainage in San Joaquin Valley, California: Science, Technology, and Policy*, Global Issues in Water Policy 5, DOI 10.1007/978-94-007-6851-2_3, © Springer Science+Business Media Dordrecht 2014
2. Quinn N.W.T. 2014. The San Joaquin Valley: Salinity and Drainage Problems and the Framework for a Response. In: A.C. Chang and D. Brawer Silva (eds.), *Salinity and Drainage in San Joaquin Valley, California: Science, Technology, and Policy*, Global Issues in Water Policy 5, DOI 10.1007/978-94-007-6851-2_3, © Springer Science+Business Media Dordrecht 2014 LBNL Topical Report – LBL-38498.
3. Quinn N.W.T., 2013. *International Perspectives on Water Quality Management and Pollutant Control*, ISBN 978-953-51-0999-0, edited by Nigel W.T. Quinn, PhD, P.E. DWRE.
<http://www.intechopen.com/books/international-perspectives-on-water-quality-management-and-pollutant-control>
4. Quinn N.W.T., R. Ortega and L. Holm. 2010. Environmental sensor networks and continuous data quality assurance to manage salinity within a highly regulated river basin. In : Manos, B., Matsatsinis, N., Paparrizos, K., & Papathanasiou, J. (2010). *Decision Support Systems in Agriculture, Food and the Environment: Trends, Applications and Advances* (pp. 1-554). Hershey, PA: IGI Global. doi:10.4018/978-1-61520-881-4.
5. McIntosh, B.S., Giupponi, C., Voinov, A.A., Smith, C., Matthews, K.B., Monticino, M., Kolkman, M.J., Crossman, N., van Ittersum, M., Haase, D., Haase, A., Mysiak, J., Groot, J.C.J., Sieber, S., Verweij, P., Quinn, N., Waeger, P., Gaber, N., Hepting, D., Scholten, H., Sulis, A., van Delden, H., Gaddis, E. and Assaf, H. 2008. Bridging the Gaps Between Design and Use: Developing Tools to Support Environmental Management and Policy. In : Jakeman, A.J., Voinov, A.A., Rizzoli, A.E. and Chen, S.H. (eds.) *Environmental Modelling*,

Software and Decision Support. Developments in Integrated Environmental Assessment Volume 3. Chapter 3. pp 33-48.

6. Mysiak, J., Brown, J.D., Jansen, J. and Quinn, N.W.T. 2008. Environmental Policy Aid Under Uncertainty. In : Jakeman, A.J., Voinov, A.A., Rizzoli, A.E. and Chen, S.H. (eds.) Environmental Modelling, Software and Decision Support. Developments in Integrated Environmental Assessment Volume 3. Chapter 6, pp 87-100.
7. Rizzoli, A.E., Leavesley, G., Ascough, J.C., Argent, R.M., Athanasiadis, I.N., Brilhante, V., Claeys, F.H.A., David, O., Donatelli, M., Gijsbers, P., Havlik, D., Kassahun, A., Krause, P., Quinn, N.W.T., Scholten, H., Sojda, R.S. and Villa, F. 2008. Integrated Modelling Frameworks for Environmental Assessment and Decision Support. In : Jakeman, A.J., Voinov, A.A., Rizzoli, A.E. and Chen, S.H. (eds.) Environmental Modelling, Software and Decision Support. Developments in Integrated Environmental Assessment Volume 3, Chapter 7, pp 101-118.
8. Assaf, H., van Beek, E., Borden, C., Gijsbers, P., Jolma, A., Kaden, S., Kaltofen, M., Labadie, J.W., Loucks, D.P., Quinn, N.W.T., Sieber, J., Sulis, A., Werick, W.J. and Wood, D.M. 2008. Generic Simulation Models for Facilitating Stakeholder Involvement in Water Resources Planning and Management: A Comparison, Evaluation, and Identification of Future Needs. In : Jakeman, A.J., Voinov, A.A., Rizzoli, A.E. and Chen, S.H. (eds.) Environmental Modelling, Software and Decision Support. Developments in Integrated Environmental Assessment Volume 3. Chapter 13, pp 229-246.
9. Hidalgo H., L.D. Brekke, N.L. Miller, N.W.T. Quinn, J. Keyantash and J.A. Dracup. 2006. Assessment of the Impacts of Climate Change on the Water Allocation, Water Quality and Salmon Production in the San Joaquin River Basin: in M. Ruth, K. Donaghy and P. Kirshen (eds), Regional Climate Change and Variability: Impacts and Responses, Cheltenham, UK and Northampton, MA: Edward Elgar. pp. 30–57.
10. Quinn, N.W.T, Carl W. Chen and W.T. Stringfellow. 2003. A Decision Support System for Real-Time Management of Dissolved Oxygen in the Stockton Deep Water Ship Channel. Environmental Software Systems. Environmental Knowledge and Information Systems IFIP TC5 WG5.11, 9th International Symposium on Environmental Software Systems (ISESS'2003), May 28-June 2, 2003 , Semmering, Austria. Edited by Gerald P. Schimak, Nigel W. T.Quinn, Ralf Denzer and David A. Swayne. Publisher: Copyright: 2003 by International Federation for Information Processing. LBNL No. 53394.
11. Environmental Software Systems. 2003. Environmental Knowledge and Information Systems IFIP TC5 WG5.11, 9th International Symposium on Environmental Software Systems (ISESS'2003), May 28-June 2, 2003 Edited by Gerald P. Schimak, Nigel W. T Quinn, Ralf Denzer and David A. Swayne. Copyright: 2003 by International Federation for Information Processing.
12. Quinn N.W.T. L.D. Brekke, K.L. Bashford, N.L. Miller, H. Hidalgo, P. Raju and J.A. Dracup 2002. Model Integration For Assessing Future Hydroclimate Impacts On Water Resources, Agricultural Economic Sustainability And Environmental Quality. Environmental Software Systems. Environmental Information and Decision Support. IFIP TC5 WG5.11. Joint 3rd International Symposium on Environmental Software Systems (ISESS'2002) and International Environmental Modelling and Software Society, iEMSs June 24 - June 28, 2002, Lugano, Switzerland
13. Quinn N.W.T. N.L. Miller, J.A. Dracup, L. Brekke and L. Grober 2000. An integrated modeling system for environmental impact analysis of climate variability and extreme weather events in California. Environmental Software Systems. Environmental Information and Decision Support. IFIP TC5 WG5.11, 3rd International Symposium on Environmental Software Systems (ISESS'2000), May 28-June 2, 2000, Zell am See, Austria. Edited by: Ralf Denzer, David A. Swayne, Martin Purvis and Gerald Schimak. Publisher: Kluwer Academic Publishers, Massachusetts. Copyright: 2000 by International Federation for Information Processing.
14. Quinn N.W.T. 1999. Real time management of water quality in the San Joaquin Basin, California. Environmental Software Systems. Environmental Information and Decision Support. IFIP TC5 WG5.11, 3rd International Symposium on Environmental Software Systems (ISESS'99), August 30-September 2, 1999,

Dunedin, New Zealand. Edited by: Ralf Denzer, David A. Swayne, Martin Purvis and Gerald Schimak. Publisher: Kluwer Academic Publishers, Massachusetts. Copyright: 2000 by International Federation for Information Processing.

15. Quinn N.W.T. 1991. Assessment of ground water pumping as an option for water table management and drainage control in the western San Joaquin Valley. In "The Economics of Water and Drainage in Agriculture". Editors : A. Dinar and D. Zilberman, Kluwer Academic Publishers.
16. Quinn N.W.T. 1988. A screening study of management alternatives for selenium drainage reduction in the San Joaquin Valley of California. In: "Selenium in Agriculture and the Environment". American Society of Agronomy, Madison, Wisconsin.

CONFERENCE PROCEEDINGS, LBNL REPORTS, ABSTRACTS AND POSTERS

1. Quinn, N.W.T. 2015. Real-time decision support for agricultural water supply and drainage water quality management in California's San Joaquin Valley. USAID Delegation presentation. UC Merced, College of Engineering. Jun 15-17, 2015.
2. Quinn N.W.T. 2015. Integrated Modeling for Adaptive Management of Estuarine Systems, Center for Watershed Science, University of California, Davis. May 21-22.
3. Quinn, N.W.T. 2015. Marriage of Data and Water Quality Model Output Visualization for Stakeholder Involvement and Real-time Decision Support. California Water and Environmental Modeling Forum, Folsom, CA. Feb 24-26, 2015.
4. Dones R., N.W.T. Quinn and J. Herr. 2015. Comparison of real-time water quality forecasting tools in the San Joaquin River. California Water and Environmental Modeling Forum, Folsom, CA. Feb 24-26, 2015.
5. Quinn, N.W.T. 2015. Real-time water quality management. Guest lecture, Department of Plant Science, California State University, Fresno, CA. Nov 10, 2014.
6. Quinn, N.W.T. 2015. Soil salinity measurement and habitat sustainability in brackish seasonally managed wetlands. Soil Complexity Conference, Berkeley, CA. Sept. 15-16, 2014.
7. Quinn, N.W.T. 2014. Real-Time Scheduling Salt Loading Management from Seasonal Wetlands. Kisters User Workshop. Sept. 9-10, 2014.
8. Quinn, N.W.T. 2014. Sensor Web Technologies for Real-Time Scheduling of Salt Loading from Seasonally Managed Wetlands. California Water and Environmental Modeling Forum, Folsom, CA. Feb 24-26, 2014
9. Quinn, N.W.T. 2014. Sensor Web Technologies for Real-Time Scheduling of Salt Loading from Seasonally Managed Wetlands. Kisters User Workshop. Sept. 9-10, 2013.
10. Quinn, N.W.T. and L. Holm. 2013. Challenges in planning and implementation of a real-time salinity management TMML. ASCE EWRI Conference. Cincinnati, OH. May 19-23, 2013.
11. Quinn N.W.T. Visualization tool for real-time salinity management in Grassland Water District. Presentation to the CVSALTS Lower San Joaquin River Committee. Modesto, CA. Feb 14, 2013.
12. Quinn, N.W.T. 2013. The POWER of DATA. Sensor data-induced cultural change within the Grassland Basin. California Water and Environmental Modeling Forum, Folsom, CA. Apr 22-24, 2013.

13. Quinn, N.W.T. 2013. Sensor Web Technologies for Real-Time Scheduling of Salt Loading from Seasonally Managed Wetlands. California Water and Environmental Modeling Forum, Folsom, CA. Apr 22-24, 2013.
14. Quinn, N.W.T. 2012. Salinity Management Research Needs Panel. Central Valley Salinity and Nitrate Conference. EPA Building, Sacramento, CA. Nov 15-16, 2012.
15. Quinn, N.W.T. 2012. Implementation of Basin-Wide Real-Time Salinity Management: A Managed Seasonal Wetland Exemplar. USCID Water Management Conference, Reno, NV. November 12-16, 2012
16. Quinn, N.W.T. 2012. Real-time salinity management in the San Joaquin Basin. Presentation and Conference Abstract. Salt and Nitrate in Groundwater: Finding Solutions for a Widespread Problem” Symposium, Groundwater Resources Association of California, Fresno, CA. June 13-14, 2012.
17. Faunt C., J. Traum, M. Sneed, R.T. Hanson, and N.W.T. Quinn. 2012. Updates and Refinements to the Central Valley Hydrologic Model, with an Emphasis on Improving the Simulation of Land Subsidence in the San Joaquin Valley. California Groundwater: Data, Planning and opportunities. Groundwater Resources Association Conference Abstract. Oct. 4-5. Rohnert Park, CA.
18. Sathre, R., H. Breunig, P. Larsen, E. Masanet, T. McKone, N.W.T. Quinn, and C. Scown. 2012. Spatially-explicit impacts of carbon capture and sequestration on water supply and demand. Proceedings of the Eleventh Annual Carbon Capture, Utilization & Sequestration Conference – April 30-May 3, 2012. Pittsburgh, Pennsylvania.
19. Lundquist T.J., I. C. Woertz, N. W. T. Quinn, and J. R. Benemann. 2010. A Realistic Technology and Engineering Assessment of Algae Biofuel Production. Energy Biosciences Institute
Available at: <http://works.bepress.com/tlundqui/5>
20. Quinn, N.W.T. 2010. Environmental Information Management Systems as Templates for Successful Environmental Decision Support. International Congress on Environmental Modelling and Software. Ottawa, Ontario, Canada. July 5-8..
21. Quinn, N.W.T., D.B. Cozad and G. Lee. 2010. Information technology and decision support tools for stakeholder-driven river basin salinity management. Proceedings of the International Engineering and Electronic Engineers Society, 43rd Hawaii International Conference on System Sciences, Kauai, Hawaii. Jan 5-9, 2010.
22. Quinn N.W.T and J.A. Faghih. 2008. WESTSIM: Groundwater conjunctive use, agricultural drainage and wetland return flow simulation on the west-side of the San Joaquin Basin. In: Brush CF, Miller NL, editors. Proceedings of the California Central Valley Groundwater Modeling Workshop, July 10-11, 2008, Lawrence Berkeley National Laboratory, Berkeley, CA. Sacramento, CA: California Water and Environmental Modeling Forum. p. 26-32
23. Quinn, N.W.T. 2007. Hydrogeologic Assessment of the Pixley National Wildlife Refuge. LBNL- 63498. October 1, 2007.
24. Quinn, N.W.T., K.N. Poole and T.J Lundquist. 2008. Impacts of Delayed Drawdown on Aquatic Biota and Water Quality in Seasonal Wetlands. Annual Report to the Water Resources Center, University of California, Riverside, Salinity Drainage Program.
25. Quinn N.W.T..2007. An environmental monitoring data management system for providing stakeholder assurances toward meeting contaminant mass loading policy objectives. Proceedings of the International Symposium of Environmental Software Systems, Prague, Czechoslovakia. May 22-25, 2007.
<http://www.isess.org/papers.asp?year=2007>
26. Brunell, M., G. M. Litton, and N. W. T. Quinn. 2007. Zooplankton abundance and diversity in the lower San Joaquin River above the Stockton Deep Water Ship Channel (San Joaquin Co., California, U.S.A..

Proceedings of the Ecological Society of America/Society for Ecological Restoration International Joint Meeting in San Jose, CA. Aug 2007

27. Quinn, N.W.T, J.C. Linneman and K.K. Tanji. 2006. The San Joaquin Valley Westside Perspective. World Environmental and Water Resources Congress 2006. ASCE EWRI.
<http://gear.asce.org/paper/converted/40856/40856-14247.pdf>. LBN -60613. May 22, 2006.
28. Quinn, N.W.T and T.J. Lundquist. 2006. Managing Water Quality in the San Joaquin River Basin. Science and Stewardship. Proceedings, State of the San Francisco Bay-Delta Estuary 2006. San Francisco Estuary Project and CALFED.
29. Quinn N.W.T 2006. Bottom-up, decision support system development : a wetland salinity management application in California's San Joaquin Valley. Summit on Environmental Modeling and Software 3rd Biennial meeting of the International Environmental Modelling and Software Society, Burlington, Vermont, USA July 9-12, 2006. LBNL-60231
30. Quinn, N.W.T. 2006. Hydrogeologic Assessment of the 4-S Land and Cattle Company Ranch. LBNL- 60011. April 10, 2006.
31. Quinn, N.W.T. 2006. Qualitative Analysis/Discussion of Increased Contractual Deliveries - San Luis Unit LBNL-60612. March 27, 2006.
32. Quinn N.W.T. 2005. Position Paper and Abstract. Successes and Failures of Decision Support Systems. International Workshop on Success and Failure of Decision Support Systems for Integrated Water Resource Management. Palazzo Zorzi, Venice, Italy. Oct. 6-7, 2005.
33. Su, G., N.W.T. Quinn, P.J. Cook and W. Ship. 2005. Minaturization of the flowing fluid electric conductivity logging technique. LBNL-59032. October 19, 2005.
34. Quinn, N.W.T and H.V. Graham. Evaluating the Effects of Tailwater Irrigation on Soil Salinity and Discharge Water Quality. Combating Global Soil & Land Degradation IV. Salinization, Sodification and Other Forms of Degradation in Agricultural and Native Ecosystems – Poster. World Congress on Soil Science, Philadelphia, July 10-14, 2006.
35. Lundquist T.J., N.W.T. Quinn, S.E. Borglin, A. Sudame and W.J. Oswald. 2006. Biological treatment of irrigation drainage for selenium removal. Poster Session, Ecology Department External Peer Review. Berkeley National Laboratory. May 11, 2006.
36. Quinn N.W.T. and J.R. Burns. 2006. New tools for ecological impact assessment in managed seasonal wetlands. Poster Session, Ecology Department External Peer Review. Berkeley National Laboratory. May 11, 2006.
37. Quinn N.W.T..2006. Innovations and Lessons Learned : Abstract. Real-Time Water Quality Monitoring and Management in Seasonal Wetlands, California Water and Environmental Modeling Forum, Annual Meeting, Pacific Grove. March 1-3, 2005.
38. Quinn N.W.T. 2005. Position Paper and Abstract. International Workshop on Success and Failure of Decision Support Systems for Integrated Water Resource Management. Palazzo Zorzi, Venice, Italy. Oct. 6-7, 2005.
39. Quinn, N.W.T., J.S. Hanlon, J.R. Burns, K.A.K. Stromeyer, B.M. Jordan, M.J. Ennis and D.W. Woolington. 2005. Real-Time Water Quality Monitoring and Habitat Assessment in the San Luis National Wildlife Refuge LBNL-58813. August 28, 2005, Berkeley, CA 94720
40. Quinn N.W.T. and T.J. Lundquist. 2005. Abstract. Adaptive Real-Time Management of Water Quality in the San Joaquin River Basin. 7th Biennial State of the San Francisco Estuary Conference. Celebrating Science and Stewardship. Henry J. Kaiser Convention Center, 10 10th Street, Oakland, CA 94607, October 4-6, 2005.

41. Quinn N.W.T. 2005. Abstract. Innovations in GIS-Based Modeling of Groundwater Conjunctive Use and Salinity Management on the West Side of the San Joaquin Basin. 25th Biennial Groundwater Conference and 14th Annual Meeting of the Groundwater Resources Association of California. October 25-26, Sacramento Convention Center, Sacramento, CA
42. Lundquist T.J., N. Abe, J. Davis, F.B. Green, N.W.T. Quinn, G. Sharma, I. Tadesse, and W.J. Oswald. 2005. Effect of Salinity on Agricultural Drainage Biotreatment for Selenium and Nitrate Removal. LBNL-58319. June, 2005, Berkeley, CA 94720
43. Lundquist T.J., J. Davis, F.B. Green, N.W.T. Quinn, G. Sharma, I. Tadesse, and W.J. Oswald. Evaluating the Potential of Drainage Biotreatment through Selenium Speciation and Kinetic Modeling Final Report. LBNL-58167. June 2005, Berkeley, CA 94720
44. Quinn, N.W.T. W.M. Hanna, J.S. Hanlon, J.R. Burns, C.M. Taylor, D. Marciochi, S. Lower, V. Woodruff, D. Wright and T. Poole. 2004. Real-Time Water Quality Management in the Grassland Water District. LBNL-56825. November 15, 2004, Berkeley, CA 94720
45. Quinn, N.W.T and S.A. Feldmann. 2004. Wetland plant guide for assessing habitat impacts of real-time salinity management. LBNL-56668.
46. Quinn, N.W.T. 2004. Concept paper for real-time temperature and water quality management for San Joaquin River riparian habitat restoration. LBNL-56815.
47. Quinn, N.W.T and K.C. Jacobs. 2004. An emergency environmental response system to protect migrating salmon in the lower San Joaquin River. Spring ISESS Conference, May 18-21, 2004, James Madison University, Harrisonburg, Virginia.
48. Quinn, N.W.T, C.W. Chen and W.T. Stringfellow. 2003. A Decision Support System for Real-Time Management of Dissolved Oxygen in the Stockton Deep Water Ship Channel. 9th International Symposium on Environmental Software Systems (ISESS'2003), May 28-June 2. Semmering, Austria.
49. Lundquist, T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, C. Hsieh, R.Y. Huang, and W.J. Oswald, 2003. The Physical-Chemical Aspects of Biological Drainage Treatment, U.C. Salinity Drainage Meeting Proceedings, March 27, Sacramento.
50. Stringfellow W.T. and N.W.T Quinn. 2003. Source of biochemical oxygen demand in west-side tributaries of the San Joaquin River, California. LBNL-53373.
51. Hanlon J.A., W.T. Stringfellow and N.W.T. Quinn. 2003. Contributing factors in oxygen demand and algal growth in the San Joaquin River from west-side nutrient and organic carbon sources. Poster session – annual review. Lawrence Berkeley National Laboratory.
52. Green F.B., S.E. Borglin, C.H. Hsieh, R.Y.C. Huang, N.W.T. Quinn, A. Sudame, M.G. Takata and W.J. Oswald. 2003. Algal-bacterial selenium removal and biological treatment of irrigation drainage. ESD Science review, Poster Session. Mar 3-4.
53. Quinn N.W.T. and D. Follette. 2003. Demonstration of real-time water quality management for seasonal wetland drainage. ESD Science review, Poster Session. Mar 3-4.
54. Quinn, N.W.T and Alice A. Tulloch. 2002 San Joaquin River diversion data assimilation, drainage estimation and installation of monitoring stations. LBNL-56940.
55. Lundquist, T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, C. Hsieh, and W.J. Oswald, 2002. Development of Drainage Treatment for the San Joaquin River Water Quality Improvement Project, DWR Project Update Meeting, March 27, 2002, Sacramento.

56. Green, F.B., T.J. Lundquist, N.W.T. Quinn, M.A. Zárate, I.X. Zubieta, and W.J. Oswald. 2002. "Selenium and nitrate removal from agricultural drainage using the AIWPS Technology," Fifth International Water Association Specialist Conference on Waste Stabilization Ponds, Pond Technology for the New Millennium, April 2-5, 2002, Auckland, New Zealand (in press Water Science and Technology)
57. Quinn N.W.T and W. Mark Hanna. 2002. Real-time management of seasonal wetland drainage to satisfy salinity TMDL objectives in California's Grasslands Basin. Proceedings of the US Committee on Irrigation and Drainage Water Management Conference on Helping Irrigated Agriculture Adjust to TMDL's, Sacramento, CA. October 23-26.
58. Quinn N.W.T. L.D. Brekke, N.L. Miller, T. Heinzer and J.A. Dracup. 2002. Model Integration for Assessing Future Hydroclimate Impacts on Water Resources, Agricultural Production and Environmental Quality in the San Joaquin Basin, California. LBNL-51708.
59. Quinn, N.W.T. and M.C.S. Eacock. 2002. Real-Time Water Quality Modeling and Management in the San Joaquin River. LBNL-51167.
60. Williams, C. Brombaugh T., Alemi M. and N.W.T. Quinn 2002. A Conceptual Salt Budget for Characteristic Water Districts in the Western San Joaquin Valley, California. Proceedings of the US Committee on Irrigation and Drainage Conference on Energy, Climate, Environment and Water – Issues and Opportunities for Irrigation and Drainage, San Luis Obispo, CA. July 9-12.
61. Quinn N.W.T and M.C.S. Eacock. 2002. Real-Time Water Quality Modeling And Management In The San Joaquin River. Proceedings of the US Committee on Irrigation and Drainage Conference on Energy, Climate, Environment and Water – Issues and Opportunities for Irrigation and Drainage, San Luis Obispo, CA. July 9-12.
62. Green, F.B., T.J. Lundquist, N.W.T. Quinn, M.A. Zárate, I.X. Zubieta, and W.J. Oswald. 2002. "Selenium and nitrate removal from agricultural drainage using the AIWPS Technology," Fifth International Water Association Specialist Conference on Waste Stabilization Ponds, Pond Technology for the New Millennium, Auckland, New Zealand, April 2-5
63. Quinn N.W.T and M.C.S. Eacock. 2002 Project Impacts on the San Joaquin River. In : Grassland Bypass Project, Annual Report 1999-2000. San Francisco Estuary Institute, Feb.
64. Quinn, N.W.T. and W. M. Hanna. 2002. A Decision Support System for Adaptive Real-Time Management of Seasonal Wetlands. LBNL-50238.
65. Eacock M.C.S and N.W.T Quinn. 2002. Flow and Salinity Monitoring. In : Grassland Bypass Project, Annual Report 1999-2000. San Francisco Estuary Institute, Feb.
66. Eacock M.C.S and N.W.T Quinn. 2002. Flow, Salt and Selenium Mass Balances in the San Luis Drain . In : Grassland Bypass Project, Annual Report 1999-2000. San Francisco Estuary Institute, Feb.
67. Quinn N.W.T, C.Y. Jacquemin, J. Goetz. and J. Fawzi. 2002. WESTSIM: An Integrated Groundwater and Surface Water Model for the Western San Joaquin Basin. California Water and Environmental Modeling Forum and Interagency Ecological Program Annual Meeting, Asilomar, CA. Feb 26-Mar 1.
68. Follette D. and N.W.T. Quinn. 2002. Salt Balance in San Joaquin Basin Wetlands. . California Water and Environmental Modeling Forum and Interagency Ecological Program Annual Meeting, Asilomar, CA. Feb 26-Mar 1.
69. Hanna W.M. and N.W.T. Quinn. 2002. A wetland drainage decision support system using Arcview 8.1 to enhance coordination with San Joaquin River salinity objectives. ESRI Regional GIS Conference, Sacramento, CA.

70. Quinn N.W.T and W. Mark Hanna. 2001. Real-Time Wetland Water Quality Management in the Grasslands Basin. Invited Seminar, U.C. Berkeley Dept. of Civil and Environmental Engineering, Nov 30.
71. Quinn N.W.T, C.Y. Jacquemin , T. Heinzer and J. Goetz. 2001. WESTSIM: A GIS-based Application of the Integrated Groundwater Surface Water Model (IGSM) to the Western San Joaquin Basin for Conjunctive Use Planning and Drainage Prediction. 23rd Biennial Groundwater Conference, Sacramento, CA. October 30-31.
72. Lundquist T.J., F.B Green, N.W.T Quinn, T.J Leighton, M.A Zarate, W.J Oswald. 2001. The Algal-Bacterial Selenium Removal Process. Poster Session. State of the Estuary Conference, San Francisco, CA.
73. Sudicky E., J. VanderKwaak, G. Matanga, N.W.T Quinn, C.Y. Jacquemin. 2001. New Computational Approaches for Modeling Integrated Groundwater-Surface Water Systems. 23rd Biennial Groundwater Conference, Sacramento, CA. October 30-31.
25. Gelvin A. and N.W.T. Quinn. 2001. Grassland Water District Water Quality Management and Panoche Drainage District Algal-Bacterial Selenium Removal. Journal of Undergraduate Research, Volume 1, 2001, pp 45. Office of Science, U.S. Department of Energy.
26. Hanna M. and N.W.T. Quinn and J.A. Dracup. 2000. Adaptive real-time management of seasonal wetlands in the Grassland Water District to improve water quality in the San Joaquin River. Poster Session. American Geophysical Union Annual Conference, Dec. 2000. San Francisco, CA.
27. Zárate M.A, T.J. Lundquist, S. Mountford, N.T.W. Quinn, F.B. Green, and T.J. Leighton. 2000. Performance of an algal-bacterial selenium-removal system in the San Joaquin Valley of California. 219th American Chemical Society National Meeting, March 26-30, 2000, San Francisco.
28. Quinn, N.W.T., T.J. Lundquist, F.B. Green, W.J. Oswald, T Leighton and M.A. Zarate. 1999. Performance of an Algal-Bacterial Selenium Removal Facility in the Panoche Water District, California. Lawrence Berkeley National Laboratory, LBNL-44923
29. Quinn, N.W.T. 1998. Real-time water quality management in the San Joaquin River, California. Proceedings of the American Society of Agricultural Engineers, Drainage Symposium, Orlando, Florida. Mar 9-12.
30. Quinn N.W.T. and P. Vorster. 1997. The role of science in guiding solutions to water resources conflicts: A comparative study of Kesterson Reservoir and Mono Lake, California. Proceedings of 7th International Conference on Lakes Conservation and Management, Lake Lacar, Argentina. October 27 – 31.
31. Quinn N.W.T. and J. Karkoski. 1997. Prospects for real time management of water quality in the San Joaquin River Basin, California. Lawrence Berkeley National Laboratory Report, LBNL-40513, Earth Sciences Division, Berkeley, California.
32. Quinn N.W.T. 1997. A Compliance Monitoring System for Selenium Drainage Management. Abstracts of the ESRI Annual User Conference, San Diego, CA. July 9-12.
33. Quinn N.W.T. 1996. Abstracts of technical workshops. Bay-Delta Modeling Forum. Lawrence Berkeley National Laboratory Report, LBNL-40500, Earth Sciences Division, Berkeley, California.
34. Quinn N.W.T. 1996. Compliance monitoring program for use and operation of the Grasslands Bypass to remove agricultural drainage from Grassland Water District channels. LBNL-39052. Earth Sciences Division, Berkeley, California.
35. Narasimhan T.N. and N.W.T. Quinn. 1995. A process - oriented view of issues of salinity and drainage in the western San Joaquin Valley of California. LBNL-38498, Earth Sciences Division, Berkeley, California.

36. Karkoski J., N.W.T. Quinn, L.F. Grober. 1995. The potential for real-time water quality management in the San Joaquin River Basin of California. *Advances in Model Use and Development for Water Resources*. AWRA Annual Conference and Symposium Proceedings, Houston, Texas, July.
37. Quinn, N.W.T., T. Tokunaga, J. Clyde and R. Salve. 1994. Investigation of selenium losses in canals used for conveyance of sub-surface agricultural drainage in the western San Joaquin Valley, California. *Proceedings of the International Conference on Groundwater Ecology*. Atlanta, Georgia.
38. Presser T.S. and N.W.T. Quinn. 1994. The identification and management of irrigation-induced contamination problems in the western United States. *American Association for the Advancement of Science Abstracts*. San Francisco, CA. February 18-23.
39. Quinn N.W.T. 1993. Real time management of agricultural drainage return flows in the San Joaquin Basin of California to meet water quality objectives. *Proceedings of the American Water Resources Association Symposium on Effluent Use Management*, Tucson, Arizona.
40. Quinn N.W.T. 1992. Computer-based decision support tools for evaluation of actions affecting flow and water quality in the San Joaquin Basin and the Sacramento - San Joaquin River Delta. LBNL-34076, Berkeley, California.
41. Quinn N.W.T. 1992. Analysis of the potential impacts on surface water quality resulting from the proposed use of the San Luis Drain to transport agricultural drainage through the Northern Grasslands. LBNL-32662, Earth Sciences Division, Berkeley, CA.
42. Quinn N.W.T. 1992. San Joaquin - Tulare Conjunctive Use Model: Detailed model description. LBNL-32063, Earth Sciences Division.
43. Quinn N.W.T. 1992. Conjunctive Management of Groundwater and Surface Water Resources in the San Joaquin Valley of California. *Proceedings of the American Water Resources Association Conference on Availability of Water Resources*. Raleigh, North Carolina, April 12-16, 1992. LBNL- 31800 Earth Sciences Division, Berkeley, California.
44. Quinn N.W.T. 1991. Environmentally sound irrigated agriculture in the arid west: new challenges for water resources planners and environmental scientists. *Proceedings of the Conference on Environmentally Sound Agriculture*, Orlando Florida, April 16-18. LBNL-30836, Earth Sciences Division, Berkeley, California.
45. Quinn N.W.T. 1990. Evaluation of Conjunctive Use and Drainage Reduction Strategies. *Resources for Water Management*. *Proceedings of the American Society of Civil Engineers*, Water Resources Division, Fort Worth, Texas. February, pp. 226-231.
46. Taghavi A.S., N.W.T. Quinn and L.B. Everett. 1990. Modeling Groundwater Flow in the San Joaquin Valley. *Resources for Water Management*. *Proceedings of the American Society of Civil Engineers*, Water Resources Division, Fort Worth, Texas. February. pp. 555-558.
47. Quinn N.W.T., S.A. Hatchett and D.G. Swain. 1998. Evaluating policy options for management of selenium contaminated drainage and drainage - related problems in the San Joaquin Valley. *Toxic Substances in Agricultural Water Supply and Drainage*. *Proceedings of the Second Pan American Regional Conference on Irrigation and Drainage*, Ottawa, Ontario, June 8-9.
48. Hatchett S.A., N.W.T. Quinn, G.L. Horner and R.E. Howitt. 1989. A drainage economics model to evaluate policy options for management of selenium contaminated drainage. *Toxic Substances in Agricultural Water Supply and Drainage*. *Proceedings of the Second Pan American Regional Conference on Irrigation and Drainage*, Ottawa, Ontario, June 8-9.

49. Quinn N.W.T. 1988. Sensitivity analysis of selenium transport in the San Joaquin Valley of California. A preliminary approach toward information management and integrated systems planning. Invited paper presented at the American Society of Agronomy Annual Meeting, Nov 30 - Dec 5, New Orleans.
50. Norman W.R., N.W.T. Quinn et. al. 1982. Rural water supply and sanitation in developing countries. Topical report. Department of Agricultural Engineering, Cornell University, Ithaca, N.Y..

TECHNICAL REPORTS

1. Quinn, N.W.T., H. Wainwright, P. Jordan, Q. Zhou, J.T. Birkholzer. 2014. Potential Impacts of Future Geological Storage of CO₂ on the Groundwater Resources in California's Central Valley Simulations of Deep Basin Pressure Changes and Effect on Shallow Water Resources. Final Project Report to the California Energy Commission, Berkeley National Laboratory, Berkeley, CA.
2. Quinn, N.W.T., J. Herr, K. Van Woekhoven, T. Connor, N. Borel, H. Bergstrom and T. Murakami.. 2013. Opportunistic real-time management of saline drainage conjoined with San Joaquin River Restoration. Final Report, Regents of the University of California Agreement 442140-NQ-18214, HEADS, Berkeley National Laboratory, 1 Cyclotron Road, Berkeley, CA 94720
3. Quinn, N.W.T. R. Ortega, P. Rahilly and C.B. Johnson. 2011. Wetland drainage management technology development in support of San Joaquin River real-time water quality management. Final Report to the California Department of Water Resources, Fresno, CA. Proposition 204 Grant Program. Contract No. 4600003430. Dec 2011. Final Report to Science and Technology Program, US Bureau of Reclamation, Denver, CO.
4. Lundquist T.J., I.C. Woertz, N.W.T. Quinn, and J.R. Benemann. 2010. A Realistic Technology and Engineering Assessment of Algae Biofuel Production. Energy Biosciences Institute, University of California, Berkeley, California.
5. Quinn, N.W.T., D.L. Widell, J.A. Beam, R. Ortega, P. Rahilly. 2010. Adaptive, coordinated real-time management of wetland drainage. SWRCB Report No. 04-312-555-1. State Water Resources Control Board, Sacramento, CA. July, 2010.
6. Rahilly P., Quinn, N.W.T., J.A. Beam, D.L. Widell, R. Ortega, W Cook., L. Sparks, M. O'Dell. 2010. Wetland Response to Modified Hydrology with Respect to Salinity Management: Biological Monitoring. CALFED Report No. P0640003-01. California Bay Delta Water Authority, Sacramento, CA. June, 2010.
7. U.S. Bureau of Reclamation. 2008. Grasslands Bypass Project. Annual Report. 2005-2006.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
8. Litton G.M., M. Brunell, N.W.T. Quinn and J.C. Monroe. 2008. Task 8. Linking the San Joaquin River to the Stockton Deep Water Ship Channel. Final Report. University of the Pacific, Stockton, CA.
9. Quinn N.W.T. 2007. Description of Flow and Water Quality Monitoring Upgrades and Photo Documentation. LBNL Topical Report, No. 62371. Berkeley, CA.
10. Quinn N.W.T., T. Heinzer and D. Williams S. Tjerry, G.M. Litton and M.S. Brunell. 2008. 2-D Model of Algae Fate and Transport Based on Dye Tracer Studies. Task 6. DO TMDL Project Final Report.
11. U.S. Bureau of Reclamation. 2007. Grasslands Bypass Project. Annual Report. 2004-2005.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.

Chapter 6. Project impacts on the San Joaquin River.

9. U.S. Bureau of Reclamation. 2006. Grasslands Bypass Project. Annual Report. 2003-2004
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
10. U.S. Bureau of Reclamation. 2005. Grasslands Bypass Project. Annual Report. 2002-2003.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
11. Quinn N.W.T, J.S. Hanlon, J.R. Burns, K.A.K. Strohmayer, B./M. Jordan, M.J. Enis and D.W. Woolington. 2005. Real-time water quality monitoring and habitat assessment in the San Luis National Wildlife Refuge. Technical Report to CALFED Drinking Water program. Administered through California State University, Fresno. US Dept. of Energy Contract No. DE-AC03-76SF0098. LBNL No.
12. Quinn N.W.T, W.M. Hanna, J.S. Hanlon, J.R. Burns, C.M. Taylor, D.G. Marciochi, S.R. Lower, V.A. Woodruff, D.M. Wright and T.S. Poole. 2004. Final Report. Real-Time Water Quality Management in the Grassland Water District. Grassland Water District, Los Banos, CA. LBNL Topical Report No. 56825. December, 2004.
13. U.S. Bureau of Reclamation. 2004. Grasslands Bypass Project. Annual Report. 2001-2002.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
14. WETMANSIM : 2004. Wetland Management Simulation Model. Version 1.0. Simulation model development for the US Bureau of Reclamation, Sacramento, CA 95825.
- 15.. Lundquist, T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, G.A. Anderson, I.X. Zubieta, and W.J. Oswald 2003. Irrigation Drainage Water Treatment for Selenium Removal: Panoche Drainage District Demonstration Facility, Final Report and Year 3 Annual Report, CALFED Bay-Delta Program, 1416 Ninth St., Suite 1155, Sacramento, CA 95814, pp. 110
16. U.S. Bureau of Reclamation. 2003. Grasslands Bypass Project. Annual Report. 2000-2001.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
17. Quinn N.W.T and A.T. Tulloch. 2002. San Joaquin River diversion data assimilation, drainage estimation and installation of diversion monitoring stations. Final report. CALFED Bay-Delta Program, 1416 Ninth Street, Suite 1155, Sacramento, CA 95814, pp 211
18. Stringfellow, W.T. and N.W.T. Quinn. 2002. Discriminating Between West-Side Sources of Nutrients and Organic Carbon Contributing to Algal Growth and Oxygen Demand in the San Joaquin River. CALFED Bay-Delta Program, Sacramento, CA. Ernest Orlando Lawrence Berkeley National Laboratory Formal Report No. LBNL-51166. Berkeley National Laboratory, Berkeley, CA.
19. U.S. Bureau of Reclamation. 2002. Grasslands Bypass Project. Annual Report. 1999-2000.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
20. Lundquist T.J., F.B. Green, N.W.T. Quinn, S.E. Borglin, G.A. Anderson, I.X. Zubieta and W.J. Oswald. 2002. Irrigation drainage water treatment for selenium removal: Panoche Drainage District Demonstration Facility,

Final report and year 3 Annual report, CALFED Bay-Delta Program, 1416 Ninth Street, Suite 1155, Sacramento, CA 95814, pp 110.

21. U.S. Bureau of Reclamation. 2001. Grasslands Bypass Project. Annual Report. 1998-1999.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
22. U.S. Bureau of Reclamation. 2000. Grasslands Bypass Project. Annual Report. 1997-1998.
Chapter 3. Flow and Salinity Monitoring.
Chapter 5. Flow, salt and selenium mass balances in the San Luis Drain.
Chapter 6. Project impacts on the San Joaquin River.
23. San Joaquin Valley Drainage Implementation Program. 1999. Groundwater Management Technical Committee. Groundwater Management. April.
24. San Joaquin Valley Drainage Implementation Program. 1999. River Discharge Technical Committee. River Discharge. February.
25. Quinn N.W.T. 1997. Workshop abstracts, 1996. Bay-Delta Modeling Forum. February 24, 1997.
26. Kipps J., L. Grober, N.W.T. Quinn and E. Cummings. 1997. Final report on USBR Challenge Grant demonstration project on real-time water quality management in the San Joaquin River.
27. Chen C.W., J. Herr, L.E. Gomez, N.W.T. Quinn, J. Kipps, P.J. Landis, E.W. Cummings. 1996. Design and development of a graphic user interface for real-time water quality management on the San Joaquin River. Final report to the Department of water Resources, San Joaquin District. Systech Engineering Inc., San Ramon, CA.
28. Quinn N.W.T. 1996. Workshop abstracts, 1995. Bay-Delta Modeling Forum. February 21.
29. Quinn N.W.T. 1995. Proposed compliance monitoring program for use and operation of the Grasslands Bypass to remove agricultural drainage from Grassland Water District channels. Draft Report, U.S. Bureau of Reclamation, Sacramento. November.
30. Quinn N.W.T, M.L. Delamore and D. Kleinsmith. 1995. Supplemental environmental assessment and finding of no significant impact. Final Report. U.S. Bureau of Reclamation, Sacramento. November.
31. Delamore M.L. and N.W.T. Quinn. 1995. Strategy for implementation of the river discharge component of the San Joaquin Valley Drainage Program Plan. Working Draft. U.S. Bureau of Reclamation, Sacramento.
32. Quinn N.W.T. 1995. Task Group on Initial Use and Operation of the San Luis Drain. Final Report. January 31. US Bureau of Reclamation, Sacramento, CA.
33. Quinn N.W.T., T. Lundquist and H.W. Shen. 1995. A model of selenium drainage in the Grassland Drainage Basin of the western San Joaquin Valley to evaluate selenium loss mechanisms. Draft Report to the State Water Resources Control Board.
34. Quinn N.W.T., R. Salve, J. Clyde, C. Campbell, 1995. Monitoring of selenium fluxes in the Agatha Canal, Grassland Water District, California to determine system loss mechanisms. Draft Report to the US Bureau of Reclamation.
35. Quinn N.W.T. 1991. Analysis of the potential impacts on surface water quality resulting from the proposed use of the San Luis Drain by Grassland drainers. Report to the U.S Bureau of Reclamation. Incorporated in the USBR Supplemental Environmental Assessment and Draft Finding of No-Significant Impact. April.

36. San Joaquin Valley Drainage Program. 1990. A management plan for agricultural subsurface drainage and related problems on the westside San Joaquin Valley. Final Report, September. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
37. Quinn N.W.T. 1990. Assessment of ground water pumping as a management option in drainage problem areas of the western San Joaquin Valley. Technical Information Record. August. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
38. Quinn N.W.T. 1990. Analysis of the long-term sustainability of water quality for irrigation from pumping wells used to manage high saline water tables. Technical Information Record. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
39. Stroh C and N.W.T Quinn. 1990. Assessment of land retirement as a management option for drainage reduction. Technical Information Record. June. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
40. Quinn N.W.T et al. 1990. Overview of the use of the Westside Agricultural Drainage Economics Model (WADE) for plan evaluation. Technical Information Record. October 1989/August 1990. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
41. Quinn N.W.T et al. 1988. Formulating and evaluating drainage management plans for the San Joaquin Valley. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
42. Quinn N.W.T. 1987. Developing alternative future-without -project scenarios for agricultural lands and wetlands in the San Joaquin Valley. San Joaquin Valley Drainage Program.
43. Quinn N.W.T et al. 1987. Developing options: An overview of efforts to solve agricultural drainage and drainage-related problems in the San Joaquin Valley. December. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
44. Quinn N.W.T et al. 1987. Farm water management options for drainage reduction. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
45. Quinn N.W.T et al. 1987. On-farm and wetland management practices. Summary of project scoping workshops in Mendota, California, February 5, 1987 and in Hanford, California, February 6. San Joaquin Valley Drainage Program, Sacramento, CA 95825.
46. Quinn N.W.T. 1987. A systems approach to irrigation planning for control of selenium contaminated drainage in the San Joaquin Valley of California. Unpublished PhD dissertation, Department of Civil and Environmental Engineering, Cornell University, Ithaca, NY.
47. Quinn N.W.T. 1981. Properties of transformed simulated rainfall under a corn canopy at different growth stages and row widths. Unpublished MS thesis, Department of Agricultural Engineering, Iowa State University, Ames, Iowa.
48. Quinn N.W.T. 1977. Simulation of soil erosion on footpaths induced by human trampling. Honours thesis, National College of Agricultural Engineering, Cranfield Institute of Technology, Silsoe, England. Recipient of Hunting Medal for best undergraduate honours thesis, July 1977.

PATENT APPLICATIONS

1. Quinn N.W.T., J. Clyde and T. Tokunaga 1997. A submerged sediment and detritus sampler for depth profile investigations. Lawrence Berkeley National Laboratory.